

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A structural protein of adeno-associated virus (AAV), which comprises at least one mutation, wherein the mutated structural protein is capable of particle formation, and the mutation(s) bring(s) about an increase in the infectivity of the AAV, wherein the mutation(s) is/are located in a surface-located portion ~~of~~ or at the N-terminus of the structural protein.

2-5. (Canceled)

6. (Previously presented) The structural protein according to Claim 1, wherein it is selected from mutated VP1, mutated VP2 and/or mutated VP3.

7-10. (Canceled)

11. (Previously presented) A structural protein of adeno-associated virus (AAV), wherein the structural protein is VP1 which comprises at least one mutation which brings about an increase in the infectivity of the AAV, wherein the mutation(s) is/are brought about by one or more insertions at a XhoI cleavage site of the VP1-encoding nucleic acid.

12. (Previously presented) A structural protein of adeno-associated virus (AAV), wherein the structural protein is VP1 which comprises at least one mutation which brings about an increase in the infectivity of the AAV, wherein the mutation(s) is/are brought about by one or more insertions at a BsrBI cleavage site of the VP1-encoding nucleic acid.

13. (Previously presented) A structural protein of adeno-associated virus (AAV), wherein the structural protein is VP1 which comprises at least one mutation which brings about an increase in the infectivity of the AAV, wherein the mutation(s) is/are brought about by one or more deletions between BsrBI/HindII cleavage sites of the VP1-encoding nucleic acid and one or more DNA insertions.

14. (Previously presented) A structural protein of adeno-associated virus (AAV), wherein the structural protein comprises one or more amino acid insertion(s) which bring(s) about an increase in the infectivity of AAV, wherein the one or more insertion(s) is/are located before and/or after at least one amino acid in the sequence selected from the group consisting of YKQIS SQSGA (SEQ ID NO: 2), YLTLN NGSQA (SEQ ID NO: 3), YYLSR TNTPS (SEQ ID NO: 4), EEKFF PQSGV (SEQ ID NO: 5), NPVAT, EQYGS (SEQ ID NO: 6), LQRGN RQAAT (SEQ ID NO: 7), and NVDFT VDTNG (SEQ ID NO: 8).

15. (Previously presented) A structural protein of adeno-associated protein (AAV), wherein the structural protein is VP1 which comprises at least one mutation which brings about an increase in the infectivity of the AAV and wherein the mutated structural protein is capable of particle formation, wherein the mutation(s) is/are brought about by one or more deletions between XhoI/XhoI cleavage sites of the VP1-encoding nucleic acid.

16. (Previously presented) A structural protein of adeno-associated virus (AAV), wherein the structural protein is VP1 which comprises at least one mutation which brings about an increase in the infectivity of the AAV, wherein the mutation(s) is/are brought about by one or more deletions between BsrBI/HindII cleavage sites of the VP1-encoding

nucleic acid.

17-28. (Canceled)

29. (Previously presented) The structural protein of claim 14, wherein the structural protein is VP3.

30. (Previously presented) The structural protein of claim 29, wherein the insertion is located after the amino acid "N" in SEQ ID NO: 7.

31. (Previously presented) The structural protein according to any one of Claims 1, 6, 11-16, or 29, wherein the mutated structural protein brings about a change in an interaction of the structural protein with a cell membrane receptor.

32. (Previously presented) The structural protein according to Claim 31, wherein the cell membrane receptor is a glycoprotein of about 150 kD and/or a heparan sulphate proteoglycan.

33. (Previously presented) The structural protein according to any one of Claims 1, 6, 11-16, or 29, wherein the AAV is selected from the group consisting of AAV2, AAV3, AAV4, AAV5 and/or AAV6.

34. (Previously presented) The structural protein according to any one of Claims 1, 6, 11-16, or 29, wherein the mutation(s) is/are point mutation(s), mutation(s) of several amino acids, one or more deletions of amino acids, one or more insertions of amino acids, or a combination of these mutations.

35. (Previously presented) The structural protein according to Claim 34, wherein the insertion comprises at least one of a cell membrane receptor ligand, either a Rep protein or a Rep peptide, either an immunosuppressive protein or an immunosuppressive peptide, and either a protein or a peptide having a signal for double-strand synthesis of the foreign gene.

36. (Previously presented) The structural protein according to Claim 35, wherein the ligand is selected from an integrin, a cytokine, a receptor-binding domain of a cytokine, a receptor-binding domain of an integrin, a receptor-binding domain of a growth factor, a single-chain antibody binding to a cell surface receptor, an antibody against cell surface structures, an antibody-binding structure, an antibody-binding epitope, a ligand which binds via its charge, a ligand that binds via the type of amino acids, a ligand that binds via its specific glycosylation, or a ligand that binds via phosphorylation to cell surface molecules.

37. (Previously presented) The structural protein according to any one of Claims 1, 6, 11-16, or 29, wherein the structural protein is a component of an AAV particle.

38. (Previously presented) The structural protein of Claim 37, wherein the structural protein is a component of an AAV capsid.

39. (Previously presented) A nucleic acid coding for a structural protein of any of Claims 1, 6, 11-16, or 29.

40. (Previously presented) A cell comprising a nucleic acid of Claim 39.

41. (Previously presented) A process for the preparation of a structural protein of

any one of Claims 1, 6, 11-16, or 29, wherein a cell according to Claim 40 is cultivated and the expressed structural protein is isolated.

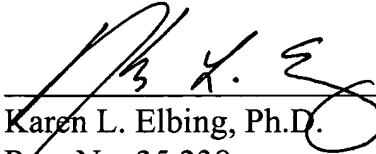
42. (Previously presented) A method for altering the tropism of AAV, the method comprising cultivating a cell which comprises an AAV coding for a structural protein of any one of Claims 1, 6, 11-16, or 29; and isolating the AAV particle produced by the cell.

CONCLUSION

Applicant submits that the claims now comply with 37 C.F.R. § 1.121 and are in condition for allowance, and such action is respectfully requested. If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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